

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: DEER MEADOW POND	Lake Area (ha):	8.58
Town: EPSOM	Maximum depth (m):	1.8
County: Merrimack	Mean depth (m):	0.8
River Basin: Merrimack	Volume (m ³):	64500
Latitude: 43°14'45" N	Relative depth:	0.6
Longitude: 71°22'30" W	Shore configuration:	1.35
Elevation (ft): 330	Areal water load (m/yr):	28.19
Shore length (m): 1400	Flushing rate (yr ⁻¹):	37.40
Watershed area (ha): 595.7	P retention coeff.:	0.44
% watershed ponded: < 0.10	Lake type:	natural w/dam

BIOLOGICAL:

	3 January 1989	4 August 1988
DOM. PHYTOPLANKTON (% TOTAL) #1	DINOBRYON 75%	STAUSTRUM 20%
#2	PENNATE DIATOM SPP. 15%	TABELLARIA 20%
#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)		910.0
CHLOROPHYLL-A (µg/L)		4.76
DOM. ZOOPLANKTON (% TOTAL) #1	NAUPLII LARVAE 48%	KERATELLA 61%
#2	KERATELLA 33%	CONOCHILOIDES 33%
#3		
ROTIFERS/LITER	22	378
MICROCRUSTACEA/LITER	24	14
ZOOPLANKTON ABUNDANCE (#/L)	46	392
VASCULAR PLANT ABUNDANCE		Very abundant
SECCHI DISK TRANSPARENCY (m)		1.7
BOTTOM DISSOLVED OXYGEN (mg/L)	11.2	6.3
BACTERIA (fecal col., #/100 ml) #1		< 10
#2		< 10
#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None
Hypolimnion volume (m³): None

CHEMICAL:

Lake: DEER MEADOW POND

Town: EPSOM

	3 January 1989		4 August 1988		
DEPTH (m)	1.0		1.0		
pH (units)	6.1		6.7		
A.N.C. (Alkalinity)	6.7		5.1		
NITRATE NITROGEN	< 0.05		< 0.05		
TOTAL KJELDAHL NITROGEN	0.26		0.96		
TOTAL PHOSPHORUS	0.091		0.027		
CONDUCTIVITY (μ mhos/cm)	141.4		110.5		
APPARENT COLOR (cpu)	26		36		
MAGNESIUM			0.98		
CALCIUM			2.8		
SODIUM			15.0		
POTASSIUM			0.90		
CHLORIDE	32		24		
SULFATE	8		6		
TN : TP	3		36		
CALCITE SATURATION INDEX			3.4		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1988

D.O. S.D. PLANT CHL TOTAL CLASS

**	4	6	1	11	Eutro.
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COMMENTS:

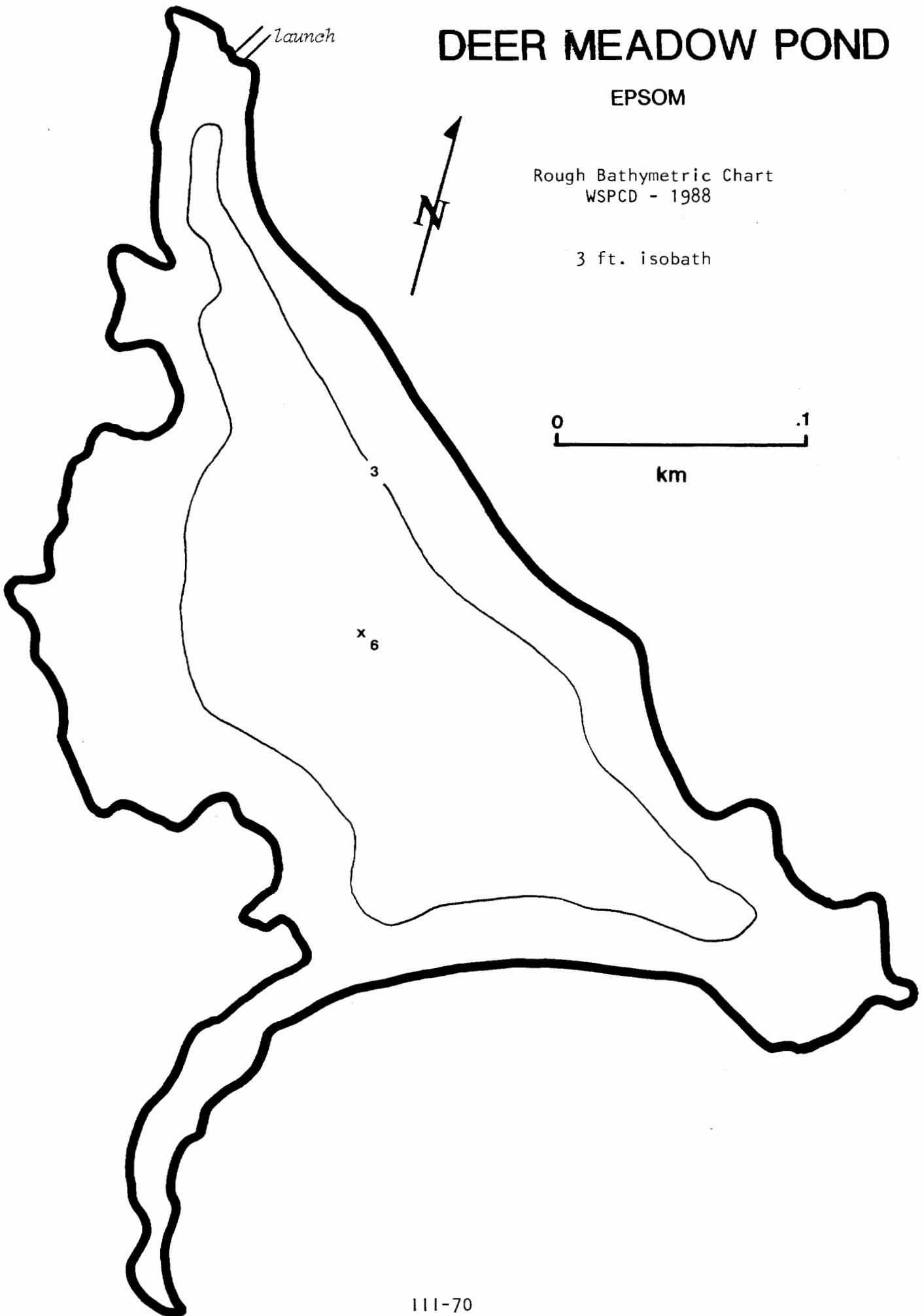
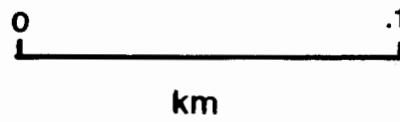
1. Pond was not sounded by fathometer because of its shallowness and abundant weed growth. A rough bathymetric chart was constructed from direct observations and a few random soundings.
2. The whole-water phytoplankton was dominated by greens (60%), with Oocystis (25%) and Pediastrum (15%) the dominant genera.

DEER MEADOW POND

EPSOM

Rough Bathymetric Chart
WSPCD - 1988

3 ft. isobath



111-70

FIELD DATA SHEET

LAKE: DEER MEADOW POND TOWN: EPSOM

DATE: 08/04/88 WEATHER: MOSTLY CLOUDY, WARM

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[illegible]

SECCHI DISK (m): 1.7 COMMENTS:

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BOTTOM DEPTH (m): 1.7

TIME: 1045

*Dissolved oxygen values are in mg/L

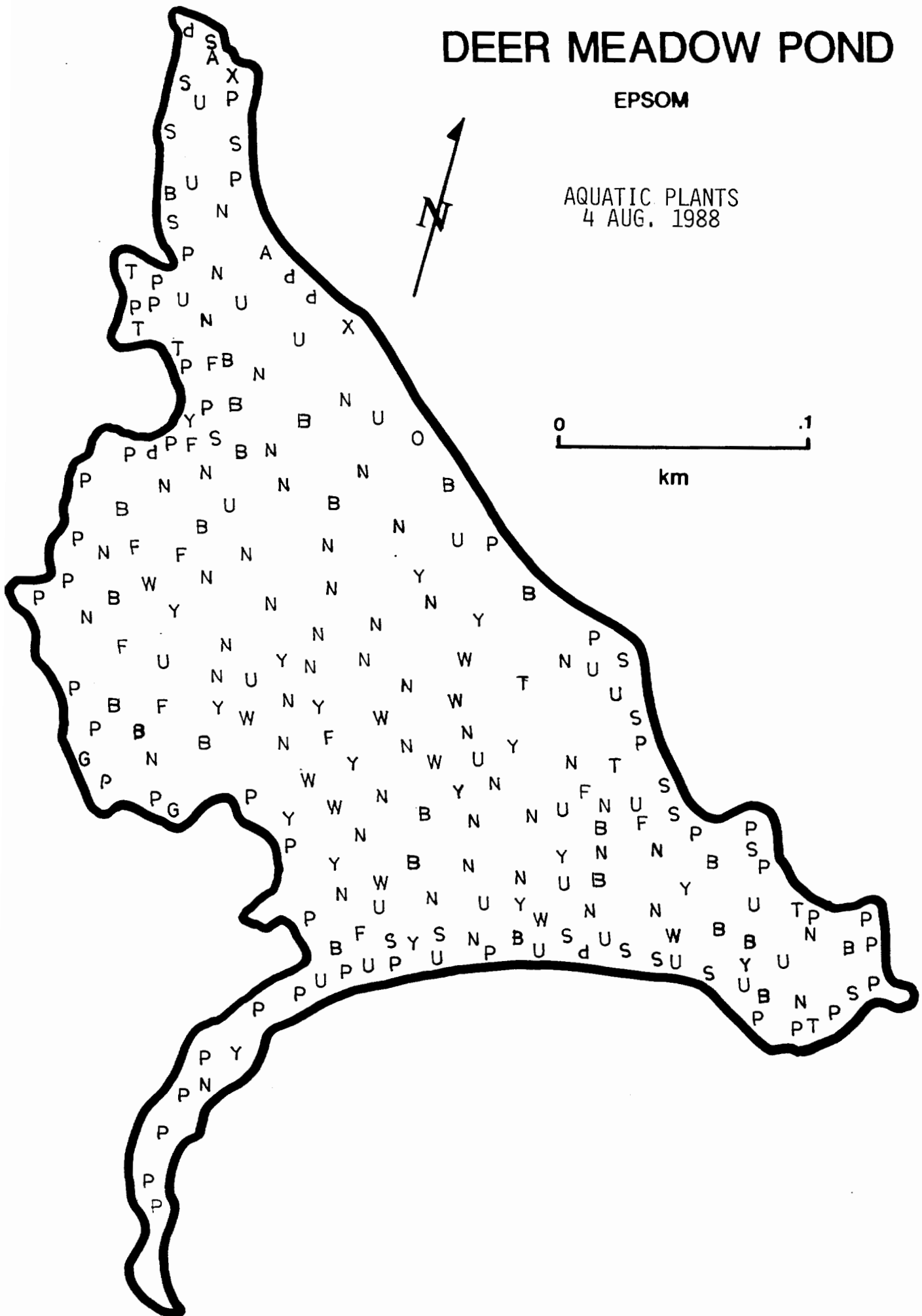
DEER MEADOW POND

EPSOM

AQUATIC PLANTS
4 AUG. 1988



0 .1
km



AQUATIC PLANT SURVEY			
LAKE: DEER MEADOW POND		TOWN: EPSOM	DATE: 08/04/88
Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
G	Gramineae	Grass family	Scattered
W	Potamogeton	Pondweed	Scattered
A	Sagittaria	Arrowhead	Sparse
d	Dulichium arundinaceum	Three-way sedge	Sparse
X	Polygonum	Smartweed	Sparse
O	Cephalanthus occidentalis	Buttonbush	Sparse
S	Sparganium	Bur reed	Common
U	Utricularia	Bladderwort	Abundant
T	Typha	Cattail	Scattered
B	Brasenia schreberi	Water shield	Very abundant
F	Nymphoides cordatum	Floating heart	Scattered
N	Nymphaea	White water lily	Very abundant
Y	Nuphar	Yellow water lily	Common
P	Pontederia cordata	Pickereelweed	Common
OVERALL ABUNDANCE: Very abundant			
GENERAL OBSERVATIONS:			
1. Much grass-like bottom growth was observed throughout the pond, along with thin-leaved pondweeds.			